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TRANSMITTAL FORM

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Total Number of Pages in This Submission 19

Application Number	09/807,665
Filing Date	June 28, 2001
First Named Inventor	C.F. Barbas, III
Art Unit	1653
Examiner Name	K.C. Carlson

Attorney Docket Number 8098-005-US-1

ENCLOSURES (Check all that apply)		
<input checked="" type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment/Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Reply to Missing Parts/ Incomplete Application <input type="checkbox"/> Reply to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input checked="" type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation <input type="checkbox"/> Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____ <input type="checkbox"/> Landscape Table on CD	<input type="checkbox"/> After Allowance Communication to TC <input checked="" type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): - Self-Addressed, Stamped Postcard
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SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	CATALYST LAW GROUP, APC		
Signature			
Printed name	Michael B. Farber, Ph.D., Esq.		
Date	September 27, 2006	Reg. No.	32,612

CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:

Signature			
Typed or printed name	Sara Hare	Date	September 27, 2006

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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Effective on 12/08/2004.

Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).

FEE TRANSMITTAL For FY 2005

 Applicant claims small entity status. See 37 CFR 1.27TOTAL AMOUNT OF PAYMENT (\$)
1,500.00

Complete if Known

Application Number	09/807,665
Filing Date	June 28, 2001
First Named Inventor	C.F. Barbas, III
Examiner Name	K.C. Carlson
Art Unit	1653
Attorney Docket No.	8098-005-US-1

METHOD OF PAYMENT (check all that apply)

Check Credit Card Money Order None Other (please identify): _____

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FEE CALCULATION

1. BASIC FILING, SEARCH, AND EXAMINATION FEES

Application Type	FILING FEES		SEARCH FEES		EXAMINATION FEES		Fees Paid (\$)
	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	
Utility	300	150	500	250	200	100	_____
Design	200	100	100	50	130	65	_____
Plant	200	100	300	150	160	80	_____
Reissue	300	150	500	250	600	300	_____
Provisional	200	100	0	0	0	0	_____

2. EXCESS CLAIM FEES

Fee Description

Each claim over 20 (including Reissues)

Each independent claim over 3 (including Reissues)

Multiple dependent claims

Total Claims	Extra Claims	Fee (\$)	Fee Paid (\$)	Small Entity	Fee (\$)	Fee (\$)
- 20 or HP =	x	=		50	25	

HP = highest number of total claims paid for, if greater than 20.

Indep. Claims	Extra Claims	Fee (\$)	Fee Paid (\$)	Multiple Dependent Claims	Fee (\$)	Fee Paid (\$)
- 3 or HP =	x	=				

HP = highest number of independent claims paid for, if greater than 3.

3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof	Fee (\$)	Fee Paid (\$)
- 100 =	/ 50 =	(round up to a whole number) x	=	

4. OTHER FEE(S)

Non-English Specification, \$130 fee (no small entity discount)

Other (e.g., late filing surcharge): Petition to Revive Unintentionally Abandoned Application

\$1,500

SUBMITTED BY

Signature		Registration No. (Attorney/Agent)	32,612	Telephone	858-200-0581
Name (Print/Type)	Michael B. Farber, Ph.D., Esq.			Date	September 27, 2006

This collection of information is required by 37 CFR 1.136. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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PATENT
09/807,665

CERTIFICATE OF MAILING
(37 C.F.R. §1.8a)

I hereby certify that this paper (along with any referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as First Class Mail in an envelope addressed to the Commission for Patents, Mail Stop: Petition, P. O. Box 1450, Alexandria, VA 22313-1450.

September 27, 2006
Date of Deposit

Sara Hare
Name of Person Mailing Paper


Signature of Person Mailing Paper

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:)	Examiner: K.C. Carlson
)	
C.F. Barbas, III)	Group Art Unit: 1653
)	
Serial No.: 09/807,665)	Docket No.: 8098-005-US-1
)	
Filed: June 28, 2001)	Date Mailed: September 27, 2006
)	
For: ZINC FINGER BINDING DOMAINS)		
FOR GNN)		

**PETITION UNDER 37 C.F.R. § 1.137(b) TO REVIVE UNINTENTIONALLY
ABANDONED PATENT APPLICATION**

Mail Stop: Petition
Honorable Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Applicant respectfully petitions under 37 C.F.R. § 1.137(b) for the revival of the above-identified patent application, which had been unintentionally abandoned.

10/02/2006 CCHAU1 00000064 502235 09807665
01 FC:1453 1500.00 DA

Abandonment of this application had been unintentional. The entire delay from the due date for the filing of the Brief for Appellant Under 37 C.F.R. § 41.37 to the filing of a grantable petition pursuant to 37 C.F.R. § 1.137(b) was unintentional.

A Brief for Appellant Under 37 C.F.R. § 41.37 as required regarding the above-identified application under appeal to the Board of Patent Appeals and Interferences accompanies this Petition.

Please charge the required fee of \$ 1500.00 (large entity) to Deposit Account No. 502-235.

No terminal disclaimer is required pursuant to 37 C.F.R. § 1.137(d), as this application was filed subsequent to June 8, 1995.

Respectfully submitted,



Michael B. Farber, Ph.D., Esq.
Reg. No.: 32,612

Date: September 27, 2006

CATALYST LAW GROUP, APC
9710 Scranton Road, Suite 170
San Diego, California 92122
(858) 450-0099
(858) 450-9834 (Fax)



CERTIFICATE OF MAILING
(37 C.F.R. §1.8a)

I hereby certify that this paper (along with any referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as First Class Mail in an envelope addressed to the Commission for Patents, Mail Stop: Appeal Brief - Patents, P. O. Box 1450, Alexandria, VA 22313-1450.

September 27, 2006
Date of Deposit

Sara Hare

Name of Person Mailing Paper

Signature of Person Mailing Paper

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:)	Examiner: K.C. Carlson
)	
C.F. Barbas, III)	Group Art Unit: 1653
)	
Serial No.: 09/807,665)	Docket No.: 8098-005-US-1
)	
Filed: June 28, 2001)	Date Mailed: September 27, 2006
)	
For: ZINC FINGER BINDING DOMAINS)		
FOR GNN)		

BRIEF FOR APPELLANT UNDER 37 C.F.R. § 41.37

Mail Stop: Appeal Brief - Patents
Honorable Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Appellant hereby submits the required Brief under 37 C.F.R. § 41.37 as required regarding the above-identified application under appeal to the Board of Patent Appeals and Interferences.

I. REAL PARTY IN INTEREST

The real party in interest is The Scripps Research Institute, of La Jolla, California, the owner of the above-identified patent application by assignment.

II. RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

III. STATUS OF CLAIMS

Claim 1 is pending and has been currently appealed.

Claims 2-50 are cancelled.

IV. STATUS OF AMENDMENTS

Claim 1 was amended subsequent to the final rejection by an amendment mailed on December 19, 2005. Claims 22-50 were cancelled by the amendment mailed on December 19, 2005. Claims 2-21 had been previously cancelled.

According to an Advisory Action mailed September 19, 2006, the amendment to claim 1 would be entered for the purposes of an appeal.

Accordingly, the arguments below apply to claim 1 as amended by the amendment mailed on December 19, 2005.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Claim 1 is directed to an isolated and purified zinc finger nucleotide binding polypeptide that binds a nucleotide sequence selected from the group consisting of GAC, GTC, GCT, and GCC. In other words, this zinc finger nucleotide binding peptide specifically binds a defined nucleotide sequence that is one of these four triplets. (Claim 1 as amended by the amendment mailed on December 19, 2005.)

Zinc finger nucleotide binding polypeptides are of great interest because they can be used to target defined polynucleotide sequences by binding specifically to those sequences. This can be done in order to regulate the expression of these sequences. One method of doing this is by incorporating a transcriptional regulator in a fusion protein that also contains the zinc finger nucleotide binding polypeptide. This results in sequence-specific regulation of expression of the polynucleotide sequence to which the fusion protein is bound. The transcriptional regulator can be an activator of transcription or a repressor of transcription. (Page 33, line 22 to page 35, line 19 of the specification; all references to page and line numbers of the specification refer to the published PCT application, PCT Publication No. WO 00/23464, original PCT application serial number PCT/EP/007742, of which the above-identified United States application is the national stage.)

The ability to specifically regulate gene expression is important because there are a number of serious diseases, especially cancer, that are believed to result from dysregulation of gene expression. Therefore, the ability to stabilize or modulate gene expression is an important treatment mechanism for cancer and for other diseases associated with dysregulation of gene expression. (Page 33, lines 22-25).

Although diverse structural families of DNA binding proteins have been described, the Cys₂-His₂ zinc finger motif constitutes the most frequently utilized nucleic acid binding motif in eukaryotes. This observation is as true for yeast as it is for man. The Cys₂-

His₂ zinc finger motif, identified first in the DNA and RNA binding transcription factor TFIIIA, is perhaps the ideal structural scaffold on which a sequence specific protein might be constructed. A single zinc finger domain consists of approximately 30 amino acids stabilized by hydrophobic interactions and the chelation of a single zinc ion. Presentation of the α -helix of this domain into the major groove of DNA allows for sequence specific base contacts. Each zinc finger domain typically recognizes three base pairs of DNA. In contrast to most transcription factors that rely on dimerization of protein domains for extending protein-DNA contacts to longer DNA sequences or addresses, simple covalent tandem repeats of the zinc finger domain allow for the recognition of longer asymmetric sequences of DNA by this motif. Recognition of 18 bps of DNA is sufficient to describe a unique DNA address within all known genomes, a requirement for using polydactyl proteins as highly specific gene switches. (Page 1, line 8 to page 5, line 2).

Since each zinc finger domain typically binds three base pairs of sequence, a complete recognition alphabet requires the characterization of 64 domains. Existing information which could guide the construction of these domains has come from three types of studies: structure determination, site-directed mutagenesis, and phage-display selections. All have contributed significantly to our understanding of zinc finger/DNA recognition, but each has its limitations. Structural studies have identified a diverse spectrum of protein/DNA interactions but do not explain if alternative interactions might be more optimal. Further, while interactions that allow for sequence specific recognition are observed, little information is provided on how alternate sequences are excluded from binding. These questions have been partially addressed by mutagenesis of existing proteins, but the data is always limited by the number of mutants that can be characterized. Phage-display and selection of randomized libraries overcomes certain numerical limitations, but providing the appropriate selective pressure to ensure that both specificity and affinity drive the selection is difficult. Experimental studies have demonstrated that it is possible to design or select a few members of this recognition alphabet. However, the specificity and affinity of these domains for their target DNA was rarely investigated in a rigorous and systematic fashion in these early studies.

Therefore, there is a need to extend these studies and develop further members of the recognition alphabet. (Page 2, line 12 to page 3, line 24).

Although a number of naturally-occurring zinc finger nucleotide binding polypeptides are known as described above, there is clearly a need for the development of synthetic or artificial zinc finger nucleotide binding polypeptides that can target any known defined nucleotide sequence. In the context of this invention, the defined nucleotide sequences that are bound by the zinc finger nucleotide-binding polypeptide include one or more of the triplets described above.

The longer a defined nucleotide sequence is, the more likely it is to include one or more of the triplets described above. This means that it is extremely important to be able to generate zinc finger nucleotide binding polypeptides that can specifically bind these particular triplets. If the zinc finger nucleotide binding polypeptide cannot bind these particular triplets when they occur in a defined nucleotide sequence that is to be regulated, the specificity of the regulation will suffer. (Page 9, lines 6-17).

In the context of the claim under appeal, the claim is directed to an isolated and purified zinc finger-nucleotide binding polypeptide that consists essentially of a nucleotide binding region having the sequence of SEQ ID NO:41 (KSADLKR) (Claim 1 as amended by the amendment mailed on December 19, 2005.)

There are no means-plus-function claims or step-plus-function claims within the provisions of 37 C.F.R. § 41.67(c)(1)(v) involved in this appeal.

VI. ISSUES TO BE REVIEWED UPON APPEAL

The sole issue to be reviewed upon appeal is whether claim 1 is anticipated under 35 U.S.C. § 102(e) by U.S. Patent No. 6,242,568 to Barbas et al. ("Barbas et al. '568").

VII. ARGUMENT

The rejection of claim 1 under 35 U.S.C. § 102(e) by U.S. Patent No. 6,242,568 to Barbas et al. (“Barbas et al. ‘568”) should be reversed by the Board of Patent Appeals and Interferences (“Board”).

The subject matter of claim 1 is not described in its entirety by Barbas et al. ‘568, as required for anticipation under any section of 35 U.S.C. § 102, including § 102(e).

It was stated in the Final Office Action, dated that Barbas et al. ‘568 taught a C7 zinc finger nucleotide binding polypeptide containing SEQ ID NO: 41 (KSADLKR) in Figure 15 and in SEQ ID NO: 42 of Barbas et al. ‘568 at residues 20-26.

However, the teachings of Barbas et al. ‘568 do not establish that “the nucleotide-binding activity of the polypeptide resides in the nucleotide-binding region having the sequence of SEQ ID NO:41” as required by pending claim 1. The C7 zinc finger nucleotide binding polypeptide of Figure 15 of Barbas et al. ‘568 (SEQ ID NO: 42 of Barbas et al. ‘568) seemingly has three repeats of the motif Lys-Ser-Ala-Asp-Leu-Lys-Arg (KSADLKR) at amino acids 20-26, 50-56, and 80-86.

Moreover, at column 29 of the specification of Barbas ‘568, it states that the C7 finger can be constructed according to the scheme:

MKLLEPYACPVESCDRRFSKSADLKRHIRHTGEKP-
(YACPVESCDRRFSKSADLKHIRIHTGEKP)₁₋₁₁, (SEQ ID NO: 39) where the sequence of the last linker is subject to change since it is at the terminus and not involved in linking two fingers together (column 29, lines 56-64 of Barbas ‘568). In this scheme, the third repeat of the motif Lys-Ser-Ala-Asp-Leu-Lys-Arg (KSADLKR) is not exact and is in fact Lys-Ser-Ala-Asp-Leu-Lys-His (KSADLKH). It is this protein, with the imperfect third repeat, that is

described as binding the designed target sequence GCG-GCG-GCG (SEQ ID NO: 32 of Barbas et al. '568) in an oligonucleotide hairpin with an affinity of 9 nM, as compared to an extremely weak affinity of 300 nM for an oligonucleotide encoding the GCG-TGG-GCG sequence (Barbas et al. '568, column 29, line 64 to column 30, line 3).

Additionally, claim 1, as amended and as under appeal, recites that the zinc finger nucleotide binding region binds a nucleotide sequence selected from the group consisting of GAC, GTC, GCT, and GCC. None of these nucleotide sequences is bound by the protein recited in Barbas '568, whose binding specificity is defined above. The results of Barbas '568 suggest that the Lys-Ser-Ala-Asp-Leu-Lys-Arg (KSADLKR) motif and the inexact repeat of that motif, Lys-Ser-Ala-Asp-Leu-Lys-His (KSADLKH), found in the protein described in Barbas '568, bind the triplet GCG. This is because it is known that when a zinc finger nucleotide binding protein binds a nucleic acid sequence, the amino-terminus of that zinc finger nucleotide binding protein binds to the 3'-end of the nucleic acid sequence and the carboxyl-terminus of that zinc finger nucleotide binding protein binds to the 5'-end of the nucleic acid sequence. Therefore, according to the results of Barbas '568, the sequences KSADLKR or KSADLKH bind to the triplet GCG, and not to TGG. These results follow from the placement of these motifs in the zinc finger protein described in Barbas '568, because the relationship between the sequences of the amino acids of the zinc finger nucleotide binding protein and the nucleotide sequences bound by that zinc finger nucleotide binding protein are invariant for this class of zinc finger nucleotide binding proteins.

The less-specific binding results seen when the middle triplet is changed from GCG to TGG indicates the sensitivity of the binding to the three-dimensional structure of the nucleotide as well as to the three-dimensional structure of the zinc finger nucleotide binding polypeptide. It also indicates that the binding can be greatly affected even when the triplets that bind the zinc finger nucleotide binding domains within the polypeptide that are amino- or carboxyl-terminal to the mismatched domain (i.e., are on either side of the mismatched domain) should still be bound. Therefore, it is necessary to take into account the entire three-dimensional structure of a zinc finger nucleotide-binding polypeptide to determine its binding

specificity for a particular nucleotide sequence. As emphasized below, this shows that the zinc finger nucleotide-binding polypeptide of Barbas '568 and the zinc finger nucleotide-binding polypeptide of claim 1 of the present invention are different molecules.

Accordingly, because of the different binding specificity for KSADLKR in the zinc finger protein described in Barbas '568, there is no disclosure in Barbas '568 of a zinc finger binding protein "that consists essentially of a nucleotide binding region having the sequence of SEQ ID NO:41 such that the nucleotide-binding activity of the polypeptide resides in the nucleotide-binding region having the sequence of SEQ ID NO:41 and wherein the nucleotide-binding region having the sequence of SEQ ID NO: 41 binds a nucleotide sequence selected from the group consisting of GAC, GTC, GCT, and GCC" as required by claim 1 as amended. The different nucleotide binding results compel a conclusion that the protein of Barbas '568 is a different protein. The difference undoubtedly lies in the unspecified sequences of each protein.

A rejection under 35 U.S.C. §102 requires that the claimed subject matter be described in its entirety in a single reference. Kalman v. Kimberly-Clark Corp., 713 F.2d 760, 218 U.S.P.Q. 781, 789 (Fed. Cir. 1983), cert. denied, 465 U.S. 1026 (1984); In re Marshall, 578 F.2d 301, 198 U.S.P.Q. 344 (C.C.P.A. 1978). Missing elements cannot be supplied by the knowledge of one skilled in the art or by the disclosure of another reference. Structural Rubber Products Co. v. Park Rubber Co., 749 F.2d 707, 223 U.S.P.Q. 1264, 1271 (Fed. Cir. 1984).

Moreover, the properties and activity of a compound, such as the zinc finger binding polypeptide of claim 1, must be considered as an inseparable part of the compound for the consideration of patentability. See In re Papesch, 315 F.2d 281, 137 U.S.P.Q. 43 (C.C.P.A. 1963) (activities and properties of chemical compound must be taken into account in evaluating patentability). In Papesch, the Court of Customs and Patent Appeals stated that courts have historically "determined the unobviousness and patentability of new chemical

compounds by taking into account their biological or pharmacological properties.” Id. at 391, 137 U.S.P.Q. at 51.

This means that the lack of specific binding of any of the triplets GAC, GTC, GCT, and GCC by the zinc finger nucleotide binding polypeptide described in Barbas ‘568 precludes any anticipation of claim 1 by Barbas ‘568.

The preamble “consisting essentially of” or equivalent language limits the scope of a claim to the specified materials or steps “and those that do not materially affect the basic and novel characteristics of the claimed invention.” In re Herz, 537 F.2d 549, 551-52, 190 U.S.P.Q. 461, 463 (C.C.P.A. 1976). The preamble “consisting essentially of” is not equivalent to “comprising.” Claims using the transitional phrase “consisting essentially of” are properly considered to be partially open rather than open. In re Garnero, 412 F.2d 276, 162 U.S.P.Q. 221, 223 (C.C.P.A. 1969). The existence of other nucleotide binding regions in the polypeptide of Figure 15 of Barbas ‘568 does affect the “basic and novel characteristics” of the claimed invention, as the activity of these polypeptides resides in their specific binding of nucleotide sequences. This is emphasized by the difference in binding specificity between the polypeptide of Barbas ‘568 and the polypeptide of claim 1 of the pending application.

This different binding specificity indicates that the “basic and novel characteristics” of the polypeptides are different, as the binding specificity for nucleotide sequences is the entire function of these zinc finger polypeptides and must be considered an essential part of their basic and novel characteristics.

Thus, the polypeptide of Barbas ‘568 cannot anticipate claim 1 of the pending application.

The use of the consisting essentially of transitional phrase, therefore, precludes the possibility of a rejection under 35 U.S.C. § 102(e) over Barbas ‘568. The rejection over Figure 15 of Barbas ‘568 is over a polypeptide that contains a framework that affects the

ability of the protein to bind the required nucleotide sequences. It is a well-understood principle of protein structure that the secondary and tertiary structure of a protein is directly specified by the primary structure of the protein. The ability of an amino acid sequence to act as a zinc finger motif and bind a specified triplet is therefore highly dependent on the secondary and tertiary structure of the protein. The zinc finger proteins of Barbas '568, including that of Figure 15, are provided by minimal modification of the wild-type zinc finger proteins Zif268. This does not provide the required binding specificity that is required by claim 1, under appeal.

In contrast, the zinc finger polypeptides of the present invention are derived by modular assembly and are not directly related to Zif268 in their primary sequence. This means that the secondary and tertiary structures of the proteins differ significantly. This difference in secondary and tertiary structures undoubtedly is the reason for the difference in binding specificity between the zinc finger polypeptides of claim 1 of the present invention and the zinc finger polypeptides described in Barbas '568.

The difference in binding specificity must lead one of ordinary skill in the art to the conclusion that the proteins are not identical. If the zinc finger nucleotide binding polypeptide of Barbas '568 was identical to the zinc finger nucleotide binding polypeptide of claim 1, they would have identical binding specificities. Because they do not have identical binding specificities, they must be different proteins.

The application of this principle of protein chemistry meets the burden of showing that the introduction of additional components would materially change the characteristics of applicant's invention. In re De Lajarte, 337 F.2d 870, 143 U.S.P.Q. 256 (C.C.P.A. 1964). It clearly would, based on the actual difference in binding specificity. This is a material change in characteristics, because the most significant property of such zinc finger polypeptides is their ability to bind a specific nucleic acid sequence, such as a triplet.

Therefore, the conclusion reached in the Advisory Action of September 19, 2006 that “finding a new binding property of SEQ ID NO: 41 places [the] invention [in condition for allowance] over Barbas” is not correct is not an accurate statement of the situation. In fact, it is not a “new binding property of SEQ ID NO: 41”, but a difference in properties of the protein itself, which leads to the conclusion that the protein recited in claim 1 is distinct from that disclosed in Barbas ‘568. The further conclusion stated in the Advisory Action that “[i]t is still the same product as taught in Barbas, which is not changed by finding a new binding property” is likewise not correct. Again, the protein is not the same product as disclosed in Barbas ‘568; it is a different product, with different properties.

It is error to consider merely the binding properties of SEQ ID NO: 41 alone. Claim 1, under appeal, is not merely directed to an isolated peptide of SEQ ID NO: 41. Rather, it is directed to an isolated and purified zinc finger nucleotide binding polypeptide that consists essentially of SEQ ID NO: 1 and has the required binding specificity. The other amino acid sequences within the polypeptide, which are essential to define the secondary and tertiary structure of the polypeptide, must be considered part of what is defined by claim 1.

Additionally, the required binding specificity of the zinc finger nucleotide binding polypeptide of claim 1 cannot be said to be inherent in the disclosure of Barbas ‘568. The difference in binding specificity between what was reported in Barbas ‘568 and what is recited in claim 1, under appeal, precludes inherency. See Glaxo Inc. v. Novopharm Ltd., 52 F.3d 1043, 1047, 34 U.S.P.Q. 2d 1565, 1567 (Fed. Cir. 1995) (uncertainty as to crystalline form of ranitidine hydrochloride resulting from practice of process disclosed in prior art patent precludes anticipation by inherency when each party obtained different crystalline form on practice of example).

This is merely an application of the more general rule that inherency cannot be established by probabilities or possibilities; it requires certainty. “Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.” Continental Can Co. USA, Inc. v.

Monsanto Co., 948 F.2d 1264, 1268-69, 20 U.S.P.Q. 2d 1746, 1749 (Fed. Cir. 1991) (quoting In re Oelrich, 666 F.2d 578, 581, 212 U.S.P.Q. 323, 326 (C.C.P.A. 1981)).

Therefore, inherency cannot properly be asserted as a ground for the rejection of claim 1 under 35 U.S.C. § 102(e) over Barbas ‘568.

The foregoing argument makes it clear that claim 1 of the above-identified patent application is not anticipated by Barbas ‘568 and that the rejection by the Examiner should be reversed.

VIII. CLAIMS APPENDIX

Claim 1, the only pending claim and the only claim under appeal, is set forth in the Appendix.

IX. EVIDENCE APPENDIX

There is no evidence previously submitted under 37 C.F.R. § 1.130, § 1.131, or § 1.132.

X. RELATED PROCEEDINGS APPENDIX

There are no related proceedings, so there are no decisions that have been rendered by a court or the Board in any proceeding identified pursuant to 37 C.F.R. § 41.37(c)(1)(ii).

X. CONCLUSION

In conclusion, the Board should reverse the final rejection of claim 1 under 35 U.S.C. § 102(e) over Barbas '568 and remand the application to the Examiner with directions to allow claim 1.

Applicant is submitting this Appeal Brief along with a Petition to Revive due to Unintentional Abandonment, along with the requisite fees for both. If there are any questions or comments, Applicant's attorney may be reached at the telephone number stated below.

Respectfully submitted,



Michael B. Farber, Ph.D., Esq.
Reg. No. 32,612

Date: September 27, 2006

CATALYST LAW GROUP, APC
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San Diego, California 92122
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CLAIMS APPENDIX

1. An isolated and purified zinc finger-nucleotide binding polypeptide that consists essentially of a nucleotide binding region having the sequence of SEQ ID NO:41 such that the nucleotide-binding activity of the polypeptide resides in the nucleotide-binding region having the sequence of SEQ ID NO:41 and wherein the nucleotide-binding region having the sequence of SEQ ID NO: 41 binds a nucleotide sequence selected from the group consisting of GAC, GTC, GCT, and GCC.

2.-50. (Cancelled).